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AUTHOR	Johnstone, Robert H.; And Others
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ABSTRACT

This publication contains curriculum materials and suggestions for teaching disease prevention and control in grades kindergarten through three. Objectives of this program include: (1) understanding that organisms too small to be seen can cause disease, and that many diseases can be transmitted from one person to another; (2) becoming familiar with the fundamental principles of disease prevention and transmission; (3) developing personal habits that will protect individuals and others from communicable diseases; (4) having a basic understanding of community efforts to minimize the communicable disease problem. The publication format is intended to provide teachers with a basic content in the first column, a listing of the major understandings and fundamental concepts which children may achieve, in the second column; and information specifically designed for classroom teachers which should provide them with resource materials, teaching aids, and supplementary information in the third and fourth columns. (KJ)

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PROTOTYPE
CURRICULUM MATERIALS
FOR THE ELEMENTARY
AND SECONDARY GRADES

HEALTH

GRADES K-3

CG005027

STRAND I PHYSICAL HEALTH

DISEASE PREVENTION AND CONTROL

SPECIAL EDITION FOR EVALUATION AND DISCUSSION

THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT
BUREAU OF ELEMENTARY CURRICULUM DEVELOPMENT/ALBANY, NEW YORK 12224/1969

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HEALTH CURRICULUM MATERIALS
Grades K-3

STRAND I, PHYSICAL HEALTH
DISEASE PREVENTION AND CONTROL

The University of the State of New York/The State Education Department
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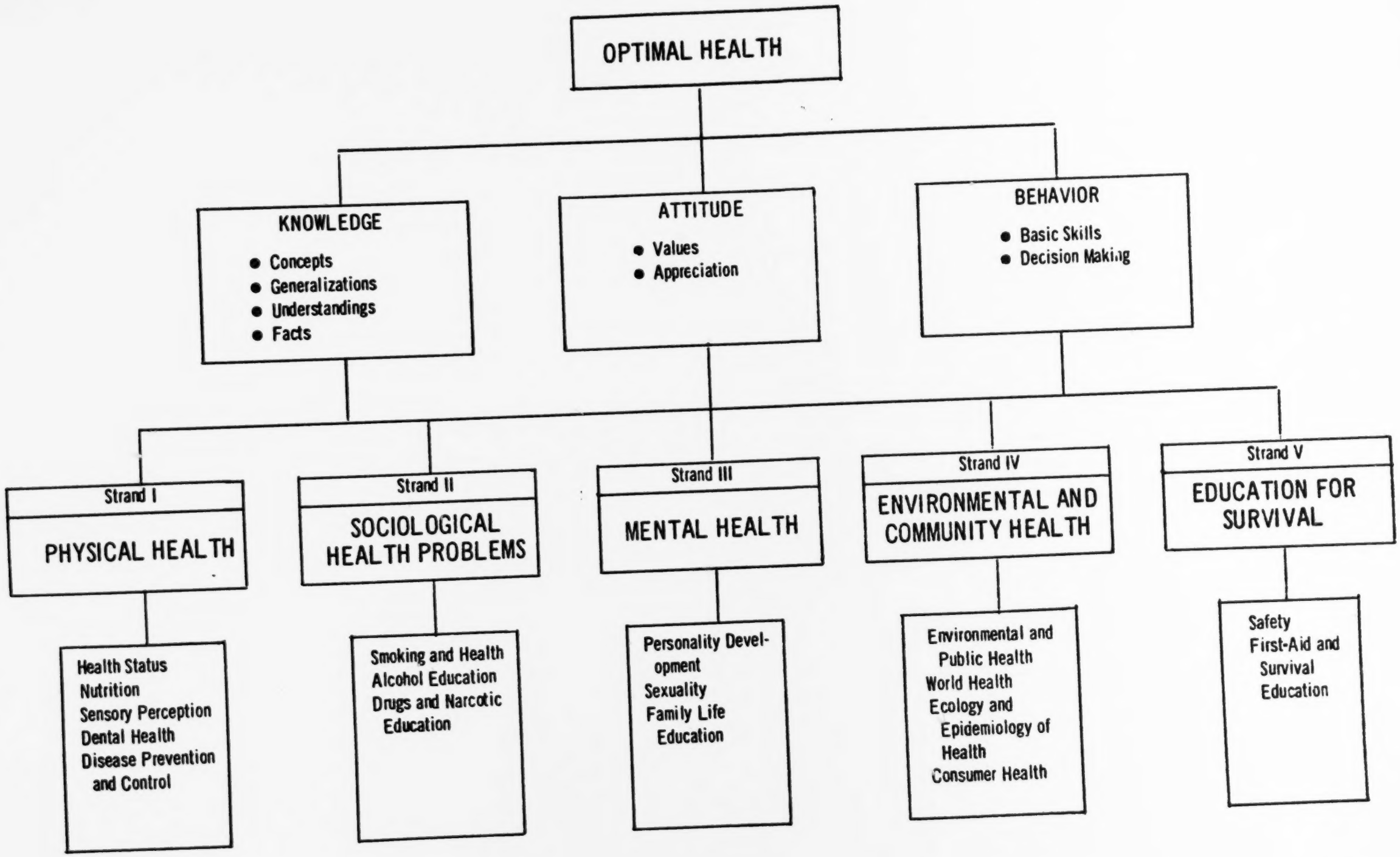
OPTIMAL HEALTH
KNOWLEDGE
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STRAND I

PHYSICAL HEALTH

Disease Prevention and Control

GRADES K-3

OVERVIEW

Children in the primary grades need to understand the basic principles of disease prevention and control because -

- the initial school years mark the first time that most children work, play, and share in close proximity to, and for extended periods of time with, a large and diverse group of age-mates.

- many of their absences from school will be the direct or indirect result of communicable diseases.

- their knowledge of disease transmission is limited.

- they are frequently preoccupied with self and need to be able to comprehend the relationships between the health of the individual and the health of his group.

- these early years are crucial to the development of positive health attitudes and practices that will protect the individual and his group from communicable diseases.

STRAND I

PHYSICAL HEALTH

Disease Prevention and Control

GRADES K-3

OBJECTIVES

Pupils in grades K-3 should:

- understand that organisms too small to be seen can cause disease, and that many diseases can be transmitted from one person to another.

- be familiar with the fundamental principles of disease prevention and transmission.

- develop personal habits that will protect themselves and others from communicable diseases.

- have a basic understanding of community efforts to minimize the communicable disease problem.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Cause of Disease A. "Germs"	Illness is often caused by "germs" that are too small to be seen but are present almost everywhere.	Touch various articles in the room while wearing white gloves. Observe how quickly the gloves become soiled, to demonstrate the necessity for washing hands and keeping them away from the face and mouth.	Communicable or infectious diseases have specific causative agents, which are minute micro-organisms. These agents identify a disease and enable a physician to destroy the organism and to treat the person ill with the disease.
B. Reservoirs of Infections 1. man 2. animals 3. soil 4. water 5. plants	Man is the most frequent reservoir (or source) on which germs depend for survival.	Inoculate culture media with dirty objects (such as dirty fingers) and with "clean" objects - that is, those that are visibly clean. Incubate and observe bacterial growth. The science teacher may help to prepare the nutrient.	It is important not to perpetuate the misconception that disease is spread only through visible filth. "Clean" things may be just as contaminated as "dirty" things.
C. How germs get to man: 1. contact (direct, indirect, droplet spread)	Germs must first be transmitted to a host, such as man, before illness can occur.		Communicable diseases are transmitted by: 1. Contact a. direct - actual touching of an infected person as in kissing. b. indirect - contact with freshly-contaminated articles such as a contaminated handkerchief.

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			c. droplet spread - by spray as in sneezing, coughing, talking.
2. vehicle	Germs travel in many ways but must always have a vehicle for movement.	Have children suggest the specific supplies and **equipment that are shared** in the classroom. Emphasize that these shared items can be contaminated easily and may serve as a vehicle for infection.	2. Vehicle - an inanimate substance or object which is contaminated with germs - water, food, milk, plasma, through an injection with unsterile equipment (needles, syringes).
3. vector	Some diseases are spread to man via the bites of certain insects.		3. Vector - usually arthropods (lower animals) such as mosquitoes, flies, lice, ticks, which when infected can transmit the agent of infection by biting.
4. airborne	Air contains many germs suspended on dust particles or droplets of water.	Use a projector to project a beam of light in a darkened room. Have pupils tell you what they see. Most will note the countless dust particles that would otherwise not be visible. Discuss how the school custodian helps to keep dust level low in classrooms.	4. Airborne - infected particles are carried through the air and may enter the body through inhalation or other routes. a. droplet nuclei - germs live on saliva or nasal discharges after moisture has evaporated and may serve to spread certain diseases.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			b. dust - contaminated dust and soils in certain goegraphical areas may serve to spread diseases. The occurrence of an infectious disease depends on the interaction of: 1. host - the individual (or animal) infected by the agent. 2. agent - biological, physical, or chemical factor which is necessary for the disease to occur. 3. environment - physical, biological (bacteria, viruses, and toxins), and social. Children need to know how certain diseases are spread, how the body combats diseases, and the role of immunization in protecting one from disease. Health education relating to diseases helps children learn how they can help in disease prevention and gives them an appreciation of the work done by doctors and other health personnel.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
D. How germs enter man's body (Portals of entry) 1. mouth 2. nose 3. break in skin	Illness can occur only after germs enter the body and find favorable conditions for living and growing.	Films: "Health families." Film Associates "Kitty cleans up." McGraw-Hill.	
E. Relationship of ear infections to nose blowing	Infections can spread to the ears from the nose and throat by sniffing and by incorrectly blowing the nose.	Demonstrate the correct ways to blow the nose, gently with both nostrils open.	Blowing the nose too hard may force infections into the middle ear through the eustachian tube. Earaches should be treated promptly by a physician.
II. Preventing Disease			
A. Personal actions	We can do many things to avoid infectious diseases.	Demonstrate and practice hand washing before lunch, after play, and after toileting.	Good daily health habits can aid in increasing resistance to disease.
1. Cleanliness	Understanding that washing hands before eating, after play, and after using the toilet helps to keep one healthier.	Poster: "To fight germs be sure to wash your hands." National Tuberculosis Association. Filmstrips: "Health habits." Educational Record Sales.	Resistance to disease is generally influenced by race, inheritance, and other conditions, including physiological well-being.
2. Nutrition and sleep	It is important to eat nourishing foods in well-balanced meals and to get proper rest and sleep to help the body protect itself from disease.	Books: Scheibe, Ida, *First book of food*, New York, Franklin Watts, Inc., 1960. Haynes, Olive, *True book of health*, Chicago, Children's Press, 1954.	Communicable disease control methods have changed with the changing times. The original emphasis was on environmental control; now the major emphasis is on personal and preventive measures.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Filmstrip: "Food for good health." Encyclopedia Britannica. Films: "Sleep for health" and "Eat for health." Encyclopedia Britannica. Film: "Eat well, grow well." Coronet Films. "Avoiding infection." Educational Record Sales. "Good health and you." Society for Visual Education. "Germs and what they do." Coronet Films. "How Billy keeps clean." Coronet Films.	The teacher is cautioned to select visual aids that are most appropriate to the kinds of problems being considered. Do not try to use all the aids listed. New materials are being developed in this area. Teachers should be ever alert to previewing and using the most desirable aids.
3. Care in the use of personal items	Germs may spread from one person to another by sharing drinking glasses, toothbrushes, combs, towels, washcloths, etc.	Have children clean out their desks and correctly dispose of the waste. Hands should be washed following this activity.	
4. Precautions when drinking and eating	Lips and mouth should not touch the fountain nozzle because germs may be harbored on these surfaces.	Demonstrate and practice the proper use of drinking fountains. Visit the school lunch room and observe sanitary measures followed in food preparation and food storage.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
5. Covering nose and mouth when sneezing; cover mouth when coughing	By covering the mouth when coughing or sneezing, the spread of disease via the air route may be prevented.	Correlate with art. Have children make faces from paper plates and construction paper. Staple hand and paper tissue to mouth and nose of face. Caption: "Cover your coughs and sneezes."	Symptoms are important because they are forerunners of serious diseases as well as common colds. In children, the runny nose, watery eyes, sore throat, cough, and muscle aches may be the beginning of one of the other communicable diseases.
6. Proper disposal of paper tissues	Paper tissues should be thrown into the waste paper basket after using once.	Discuss the immunization record of the class with the school nurse-teacher.	Communicable diseases affect the entire community. Control measures must, therefore, be part of the broad community health program. Legal requirements for the control of communicable diseases are established by public health law and the Sanitary Code.
7. Use of cloth handkerchiefs	Shaking or waving a soiled handkerchief may scatter germs in the air.	The school nurse-teacher may be used as a resource person for pamphlet materials from insurance companies and health departments. These may be helpful in carrying out parent education.	
B. Community action 1. Sanitation 2. Public health department	Special groups and individuals in the community work to protect people from diseases.	Films: "I never catch cold." Coronet Films. "Joan avoids a cold." Coronet Films.	The body forms substances called antibodies that counteract or neutralize the harmful effect of disease organisms. These antibodies are part of the defense against disease and provide natural immunity.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Immunization	By having "shots" one can prevent certain diseases.	Filmstrip: "We have you covered." Society for Visual Education. Film or Filmstrip: "How to catch a cold." Walt Disney Films. Posters: To complement "How to catch a cold." Kimberly-Clark Corporation, Neenah, Wisconsin.	The newborn have antibodies which they obtain from their mothers before birth. This protection, however, is of short duration. To give additional protection, immunizations for smallpox, diphtheria, whooping cough, tetanus, polio, and measles are usually given in infancy. Use caution in teaching specific symptoms to children. They should learn the general signs of when something is wrong with them and how to go for help (parents).
III. Some signs of Illness	Children and teachers should stay home from school when they are ill, so that they may get well faster and avoid passing germs to others in school.	Teacher reference: "Common sense about common diseases." Equitable Life Assurance Company. Discuss how being in school spreads germs. Why is it better, when ill, to stay home? - In bed? - follow the directions of the doctor and parents?	Many communicable diseases have similar signs and symptoms and it takes a thoroughly trained and skillful observer to diagnose them correctly. This is the family physician's responsibility. The services of a physician in a clinic also are available.
A. Symptoms 1. sore throat 2. headache 3. stomachache 4. vomiting 5. skin rashes	Children should understand that there are some symptoms that are common to many diseases.		The teacher is not expected to diagnose specific diseases, but because of her strategic position she will recognize signs of illness such as rashes, nausea, weakness, etc.

REFERENCES	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. What to do	The child should not diagnose himself but should let his parents know when he does not feel well.	Plan a field trip to the school health office (preferably after the noon recess). Have your class write a "thank you" note to the school nurse-teacher and summarize what they learned from the experience. Have members of the class explain why the school nurse-teacher washes her hands before and after giving first aid.	
IV. How Others Protect Us From Illness	The individual depends upon many people to do many things to help him keep healthy.		
A. Parents and other family members	Parents try to keep their children healthy by protecting them from illness.	Discuss the responsibilities parents assume in the prevention of illness. Role-playing may be used.	
B. Teachers	Teachers, parents, school nurses and physicians, and dental hygienists all work together to keep children well.	Have pupils list and discuss the roles of any health careers they know.	A regular periodic physical examination is advocated, preferably by the child's family physician. Vision and hearing screenings are done annually in the school health program and are not intended to supplant the private physician's examinations. They are, as implied, only screenings. Teachers should discuss
C. Doctors	Doctors and nurses take care of people when they are sick; they also help people stay well.	Coordinate with school health appraisals, annual physical examinations, vision and hearing screenings, and dental inspections.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Regular visits to the doctor when the individual is well.	See Strand I - Health Status Memling, Carl, *We went to the doctor*, Abelard - Schuman, Ltd.	health problems which they detect in the classrooms with the school nurse-teacher.
D. Others	Many people (e.g., dentists, druggists, public health workers) work to improve and maintain the health of everyone.	Jubelier, Ruth, *About Jill's check-up*, Children's Press. Lerner, Marguerite, *Doctor's tools*, Learner Publication. Greene, Carla, *Doctors and nurses, what do they do?*, Harper. Film: "Your friend, the doctor." Coronet Films. Filmstrip: "The school nurses." McGraw-Hill.	

DISEASE PREVENTION AND CONTROL

K-6

Multimedia Resources

These supplementary aids have not been evaluated. The list is appended for teacher convenience only and teachers in the field are requested to critically evaluate the materials and to forward their comments to the Curriculum Development Center.

Books (Teacher References):

American Academy of Pediatrics, *Report of the committee on the control of communicable diseases*, 1966, American Academy of Pediatrics, P.O. Box 1034, Evanston, Illinois 60204.

American Public Health Association, *Control of communicable diseases in man*, 10th Edition, APHA, 1790 Broadway, New York 10023.

Anderson, C. L., *School health practice*, C. V. Mosby Company, St. Louis, 1960.

Haag, Jessie Helen, *School health program*, Revised Edition, Holt, Rinehart and Winston, Inc., New York, 1967.

Flaurier, Noel, *The modern health book*, T. S. Dennison & Company, Inc. Minneapolis, Minnesota 55415. (Collection of plays and recitations on the health theme.)

Lee, Carvel, and Lee, Lorita, *The health bulletin board guide*, T. S. Dennison & Company, Inc. Minneapolis, Minnesota 55415.

Wilson, Charles C., M.D., Editor, School Health Services, *Report of the joint committee on health problems in education*, NEA-AMA, NEA 1201 16th Street, N.W., Washington, D.C. 20036, AMA 535 N. Dearborn Street, Chicago, Illinois 63610, 1953.

Pamphlets

Equitable Life Assurance Company, 1285 Avenue of the Americas, New York, New York
"Common sense about common diseases"
"Protection against communicable disease"

Metropolitan Life Insurance Company, School Health Bureau, 1 Madison Avenue, New York, New York
"Parents...be wise - immunize!"
"To parents about immunization"
"Your personal health record"

National Tuberculosis Association, via local offices
"Drugs that fight TB"

New York State Department of Health, 84 Holland Avenue, Albany, New York 12206
"About germs"
"Infectious hepatitis"
"Measles"
"Mumps"
"Smallpox"
"The common cold"
"Triple vaccine"
"Typhoid fever"
"Whooping cough"

Prudential Insurance Company, Newark, New Jersey
"Childhood diseases"
"It's fun to be healthy"

National Association for Retarded Children, Inc. 420 Lexington Avenue, New York, New York 10017
"What you should know about measles and the measles vaccine"

Posters

"How to catch a cold." Series, Kimberly-Clark Corporation, Neenah, Wisconsin.

"Stop germs from spreading ... keep clean." local office, National TB Association.

"To fight germs, be sure to wash your hands." local office, National TB Association.

Filmstrips

"Avoiding infections." Educational Record Sales.

"Be healthy, be happy." Henk Newenhouse, Inc., 1825 Willow Road, Northfield, Illinois 60093.

"Community helpers." Stanley Bowman Films.

"Food for good health." Encyclopedia Britannica, Inc., Wilmette, Illinois.

"Good health and you." Society for Visual Education.

"Health habits." Educational Record Sales.

"How to catch a cold." Walt Disney Films, 800 Sonora Avenue, Glendale, California 91201.

"The school nurse." McGraw-Hill Films.

"We have you covered." Society for Visual Education.

Films

"A community keeps you healthy." Film Associates, 11559 Santa Monica Boulevard, Los Angeles, California 90025. (For quick information, see local Yellow Pages.)

"Eat for health." Encyclopedia Britannica.

"Eat well, grow well." Coronet Films, Coronet Building, Chicago, Illinois 60601.

"Germs and whay they do." Coronet Films, Coronet Building, Chicago, Illinois 60601.

"Healthy families." Film Associates, 11559 Santa Monica Boulevard, Los Angeles, California 90025, or Yellow Pages. (Also available through Syracuse University Film Library.)

"How Billy keeps clean." Coronet Films, Coronet Building, Chicago, Illinois 60601.

"How to catch a cold." New York State Film Library, 84 Holland Avenue, Albany, New York 12206

"I never catch cold." Coronet Films, Coronet Building, Chicago, Illinois 60601.

"Joan avoids a cold." Coronet Films, Coronet Building, Chicago, Illinois 60601.

"Kitty cleans up." McGraw-Hill Films.

"Let's keep food safe to eat." Coronet Films, Coronet Building, Chicago, Illinois 60601.

"Sleep for health." Encyclopedia Britannica Films.

"Your friend the doctor." Coronet Films, Coronet Building, Chicago, Illinois 60601.

Film for Teachers: "Things a teacher sees." International Film Bureau, Inc., 332 South Michigan Avenue, Chicago, Illinois 60604.